Friends of the Earth

January 22, 2013

Gateway Pacific Terminal/Custer Spur EIS
c/o CH2M HILL
1100 112th Avenue NE Suite 400
Bellevue, WA 98004
Email: comments@eisgatewaypacificwa.gov

RE: Scoping Comments on the Gateway Pacific Coal Export Terminal at Cherry Point

To Whom It May Concern:

Friends of the Earth appreciates the opportunity to provide the following scoping comments on the proposed Environmental Impact Statement (EIS) for the plan to build the Gateway Pacific coal export terminal and the Burlington Northern Santa Fe Railway's Custer Spur Rail Expansion project (collectively referred to as "Gateway Terminal") at Cherry Point, Washington.

Friends of the Earth is a national environmental organization with a mission to protect the environment and champion a healthy and just world. We have more than 150,000 members and activists in all 50 states in the U.S. including Washington State. We are members of Friends of the Earth International, a global network representing more than two million activists in 76 different countries. Friends of the Earth's oceans and vessels project campaigns to protect human health and the marine environment from the substantial air, water, and oil pollution generated by cruise ships, container ships, oil tankers, tugs, and ferries, as well as port facilities. Friends of the Earth has maintained an active presence advocating for a clean and healthy environment in the Northwest for over 30 years.

The following comments supplement the oral and written testimony Friends of the Earth has provided at the scoping meetings in Friday Harbor and Seattle, WA. Friends of the Earth strongly opposes the construction of the Gateway Terminal at Cherry Point, the transport of strip-mined coal from the Power River Basin in Montana and Wyoming on trains throughout the Northwest and the export of coal by ship through the Salish Sea and the Pacific Ocean. The proposed Gateway Terminal would negatively affect communities in the Pacific Northwest by increasing congestion and noise with more coal train traffic, polluting the air and local waterways, harming existing businesses, delaying emergency responders, and damaging aquatic ecosystems and fishing grounds at the terminal site.

The application notes the Gateway Terminal project includes impacting 350 acres for the Upland Terminal, including 162 acres of wetlands, as well as a 350,000 square foot wharf and trestle. However, the most significant unavoidable ecological impact is the increase risk of an oil spill due to vessel traffic which would likely result in the extinction of the genetically unique Cherry Point herring stock, the threatened Chinook salmon designated under the federal Endangered

Species Act (ESA) and the endangered Southern Resident Killer Whale community. The EIS must address how an oil spill can directly harm fish eggs and larvae, migratory seabirds, and whales in addition to damaging their federally designated critical habitat. Furthermore, the impact of spilled coal from derailments along the Puget Sound shoreline as well as during transfers to ships must be addressed. Finally, the impact that the burning of this coal will have on climate change also needs to be included in the scope of the EIS.

In addition, there are currently four other coal export terminal expansion or new build proposals in Washington State and Oregon and four coal export terminal expansion or new build proposals in British Columbia, in addition to the Gateway Terminal, that would transport as much as 150 million tons of coal annually through the Northwest and the Salish Sea on approximately 2,300 bulk carrier ships. All the ships from these proposed projects are bound for Asia, meaning their routes will impact not only the Salish Sea, Columbia River and Pacific Ocean but also the Unimak Pass along Alaska's Aleutian Peninsula. Expansion of two oil pipelines carrying bitumen is also proposed in British Columbia which would add an additional 415 to 635 oil tanker vessels to the Salish Sea and Pacific Ocean. Therefore, Friends of the Earth is asking the Army Corps of Engineers, the Washington State Department of Ecology and Whatcom County to conduct an area-wide Environmental Impact Statement to assess the cumulative impact of all of these proposed coal export terminal and oil export increases in both the U.S. and Canada and the increased risk to the region from the thousands of vessels contributed by these projects with particular attention to the cumulative burden to which the Salish Sea, Columbia River, nearshore Pacific waters and Unimak Pass is exposed.[1]

Specifically, Friends of the Earth asks that the Gateway Terminal EIS evaluate the cumulative effects of vessel traffic on the likelihood of an oil spill in the Salish Sea and Great Circle shipping route associated with this project as well as the other coal terminals projects seeking permits from the Army Corps of Engineers (ACOE) in the Pacific Northwest. We believe the EIS should not only address the changes in oil spill risk from the Gateway Terminal project but also the cumulative risk of the various coal projects on such areas as Unimak Pass where most of the associated vessel traffic will transit enroute to China. An oil spill in the Unimak Pass region could significantly impact salmon resources that spend a significant portion of their life history in the Gulf of Alaska.

The impacts on vessel traffic should also address projects being developed in Canada such as the tripling of the Kinder Morgan tar sands oil pipeline capacity servicing the Vancouver, BC terminal and the associated tanker traffic. It should also address the expansions of Canada's Pacific Northwest regional coal and container exports.

The vessel traffic study being undertaken by Glosten and Associates for this project is not sufficient to address our interests or that of the general public in that it has been scoped without public review and the methodology is unpublished. In its place we strongly recommend the ACOE mandate the project proponents to contribute to the vessel traffic study being lead by investigators at George Washington University. This work is being funded by the Makah Tribal Council and the Puget Sound Partnership and is being conducted in cooperation with the Puget Sound Harbor Safety Committee

[1] See Appendix A for detailed information on the increase in ocean-going vessels in the region from all of the proposed projects and facility expansions.

(see attached). The significant increase in vessel interactions from just the addition of the 480 ships projected to call on the Gateway Terminal requires that the EIS fully evaluate mitigations to address the associated risk to include requiring tug escorts for bulk carriers through all and portions of the their transit in inshore waters.

Impacts to Cherry Point Herring

A March 31, 2000, Biological Evaluation ("BE") for the ARCO/BP dock expansion concludes: "[I]t appears likely that another marine terminal will be constructed to the south of ARCO and Cherry Point by Gateway Pacific for the purpose of trans-shipping bulk commodities. The addition of this facility would probably **significantly increase** vessel traffic in the Southeast Strait of Georgia from an average of two large commercial vessel movement[s] per day to three movement[s] per day." (*emphasis added*) (EVS 2000[2]).

The BE concludes that "the addition of the Gateway Pacific facility with that of the ARCO pier addition may result in long-term cumulative effects because of the significant increase in vessel traffic." (EVS 2000). EVS (2000) points out that "increasing ship vessel traffic will inevitably increase the risk of an oil spill" and that "if such a spill were to occur, especially during or just before the herring spawning and rearing season, the impact to the Cherry Point herring could be catastrophic."[3] This conclusion was reached when the Gateway Terminal project anticipated less than half the amount of vessel traffic as the project currently proposes. The purpose, need and scale of the current project proposal differs dramatically from the one reviewed in EVS (1999)[4]thereby requiring a new shoreline permit, environmental analysis and range of mitigations. The National Oceanic and Atmospheric Administration (NOAA) also found in its endangered listing of the Southern Resident Killer Whale that an oil spill would significantly increase the risk of extinction to that species.

Furthermore, the EIS needs to address the numerous impacts the construction and operation of the marine terminal will have on the biotic and abiotic environment. This includes all the factors reviewed in Nightingale and Simenstad (2001)[5] including but not limited to: shading, night lighting and noise. In addition, vessel noise impacts to the Cherry Point herring must be analyzed as indicated by the 1999 Screening Level Ecological Risk Assessment (SLRA) conducted for the Washington State Department of Natural Resources which found that: "Whether vessel water disturbance or vessel shadows affect on herring is unknown. A more likely stressor is the noise generated by the vessels. Herring may choose to avoid the area during pre-spawning stages."[6]

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[2] EVS Environmental Consultant, Inc (2000). Biological Evaluation, (on file with the author).
[3] Id.
[4] EVS Environment Consultants. 1999. Cherry Point: Screening Level Ecological Risk Assessment. Report to Wash. Dep. Nat. Res. Aquat. Resour. Div. EVS Project No. 2/868-01.1.
[5] Nightingale, B. and C. A. Simenstad 2001. White Paper OVERWATER STRUCTURES: MARINE ISSUES. Research Project T1803, Task 35, University of Washington, Seattle. Prepared for the Washington State Transportation Commission in cooperation with U.S. Department of Transportation, Federal Highway Administration.
[6] Id. at fn. 4.

Industrial activities typically generate low frequency noise (<1kHz) and this is within the hearing range of fish. In general, salmon are less sensitive to noise than clupeids, which have excellent hearing (Schwartz & Greer, 1984)[7] and[8] are known to be sensitive to noise and lights. Most commercially fished species respond to noise levels exceeding 30db above hearing thresholds (Mitson, 1995). In addition, fish with swim bladders tend to have better hearing because the organ acts like an amplifier. As the size of the swim bladder increases with age, hearing capabilities may also increase because amplification is proportional to the cube of the swim bladder's volume (Mitson, 1995). Blaxter (1985)[9] recognized the importance of herrings' swim bladder for hearing exceeded that for buoyancy.

Vessel noise dominates the 20 Hz to 500 Hz frequency bandwidth and often reaches 1 kHz. While increased ambient noise may reduce herring's ability to detect predators, it is the abrupt changes in frequency that is expected to have the greatest impact on fish behavior (Schwartz & Greer, 1984). Changes in vessel speed associated with docking activities and tugboat assistance of large tankers create abrupt frequency changes.

Schwartz and Greer (1984) also found that herring were never attracted to any of the playback sounds they presented, but did respond negatively to numerous sounds played together. Avoidance behavior involved the cessation of feeding, tightening of the herring school and slow movement away from the sound source. Alarm behavior was similar to avoidance but occurred with greater speed and intensity. Rapid changes in direction and subdivision of the school sometimes occurred. A startle response was the mildest, involving a single powerful body flexion followed by a 5-10 second period of fast swimming. The schools direction and formation did not alter. Their findings indicated that larger ships could influence behavior of a school at greater distances than smaller vessels. The herring responded to increases in amplitude and their response increased in intensity and duration as the rate of change of amplitude increased (Schwartz & Greer 1984).

Despite these findings, the proponent of the new terminal, SSA Marine, has yet to conduct most of the herring studies called for in the Settlement Agreement with the state agencies and environmental plaintiffs who challenged the shoreline permit of the original far smaller bulk terminal. In addition, the Gateway Terminal proponent posted an Issue Brief[10] based primarily on the 1999 SLRA that concludes, "The answer on herring: by all means do what you can to understand their needs and help to sustain them – but there is no need to block valuable industry when it is not hurting herring." Not only does this mischaracterize the SLRA's findings on noise, but the SLRA did not even evaluate the impacts of previous oil spills on the decline of the Cherry Point herring stock. The construction and operation of the ARCO/BP refinery and Westshore coal terminals as well as a major oil spill at the Cherry Point refinery in 1972 during a large herring spawn has since been implicated in contributing to the drastic decline in the stock (Felleman, 2011).[11]

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[7] Schwarz, A.L. and G.L. Greer. 1984. Responses of Pacific herring, *Clupea harengus pallasi*, to some underwater sounds. Can. J. Fish. Aquat. Sci. 41:1183-1192.
[8] Mitson, R.B. 1995. Underwater noise of research vessels. Int. Council for the Exploration of the Sea. Cooperative Research Report No. 209.
[9] Blaxter, J.H.S. 1985. The herring: a successful species? Can J. Fish. Aquat. Sci. 42 (Suppl. 1):21-30.
[10] http://gatewaypacificterminal.com/wp-content/uploads/2012/10/Issue-Brief-Herring-Final-10.4.12.pdf.
[11] Fred Felleman, 2011. "Another Look at Cherry Point Herring," Poster/Abstract, Presented at the 2011

There has been a growing body of evidence as to the impact noise has on marine mammals[12]. A recent study in Puget Sound found current background noise from vessels may be intense enough to already be impacting behavior of fish and mammals. (Basset et al 2012).[13]

The EIS should also evaluate climate related impacts such as ocean warming and acidification. This scientific reality is compounded by the federal government's difficulty in providing a coordinated response to these challenges. When conducting the cost benefit analysis for the Gateway Terminal project there must be an appropriate accounting for the cost to the marine environment and those business, cultures and treaties dependent on an intact marine ecosystem.

While Friends of the Earth believes the Gateway Terminal should not be built due to the unavoidable long term impacts cited above, if construction is to proceed significant additional mitigation would be needed to address the environmental, ecological and public health concerns detailed above.

Sincerely,

/s/

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Salish Sea Ecosystem Conference, Vancouver, British Columbia. October, 2011.
[12] National Research Council 2005. Marine Mammal Polutions and Ocean Noise, ISBN:0-309-54667-2.
[13] Christopher Bassett, Brian Polagye, Marla Holt, and Jim Thomson A vessel noise budget for Admiralty Inlet, Puget Sound, Washington (USA). J. Acoust. Soc. Am. Volume 132, Issue 6, pp. 3706-3719 (2012).

Appendix A: Vessel Traffic Increase from Fossil Fuel Exports in the Northwest

Proposed Northwest Coal Exports

At least eight new or expanded coal export terminal projects have been proposed in the Northwest—Washington, Oregon and British Columbia, Canada. The Canadian projects could result in the presence of about 500 ships annually, as detailed below.

- 200 bulk carriers are projected for Roberts Bank Super Port (Westshore Terminal) in British Columbia.
- 52 bulk carriers are anticipated to accommodate Neptune Terminal's six million ton coal expansion in North Vancouver, British Columbia. Proposed project completion is November 2014.
- The Ridley facility at Prince Rupert, by the end of 2014, expects to increase its coal handling capacity by 12 million tons. This would translate to ship traffic of 150 bulk carriers a year.
- Approximately 100 bulk carriers are envisioned to handle up to eight million additional tons of coal from the Fraser Surrey Docks.

The projects proposed for the U.S. Pacific Northwest could result in activity from about 1,800 ships each year, as indicated below.

- The Gateway Pacific Terminal could result in the shipment of up to 54 million tons of coal contributing approximately 487 additional bulk carriers (318 Panamax and 169 Capesize vessels) are anticipated.
- Millennium Bulk Logistics Longview Terminal in Longview, WA - expected to export up to 60 million tons of coal per year, roughly translating to 750 bulk carriers a year.[14]
- Port of St. Helens, OR will likely export as much as 30 million tons of coal annually which would mean about 375 bulk carriers a year.
- Port of Morrow in Boardman, OR is designed to accommodate 8.8 million tons of coal per year which would mean approximately 110 ships a year.[15]
- Port of Coos Bay, OR plans to export between six and ten million tons of coal a year which would result in between 75 and 125 bulk carriers.

Hence, the total number of coal bulkers operating in Pacific Northwest waters could approach 2,500 vessels, with the vast majority of them voyaging to Asia through the Aleutian Islands.

Proposed Northwest Oil Exports

A summary of the oil pipeline projects and corresponding increases in vessel traffic is as follows:

- Kinder Morgan tar sands pipeline from Alberta to Burnaby, BC has a proposed capacity increase of 350,000 barrels/day, by twinning their existing line and expanding capacity to handle to 890,000 barrels per day, would result in an additional 415 oil tankers per year.[16] Each

[14] www.co.cowlitz.wa.us/buildplan/WhatsNew/MBTL.htm.
[15] www.nwp.usace.army.mil/Missions/Currentprojects/CoyoteIslandTerminal.aspx.
[16] Jeff Nagel, Kinder Morgan pares oil pipeline size, tanker estimate, May 24, 2012, mapleridgenews.com, at http://www.mapleridgenews.com/news/153693475.html.

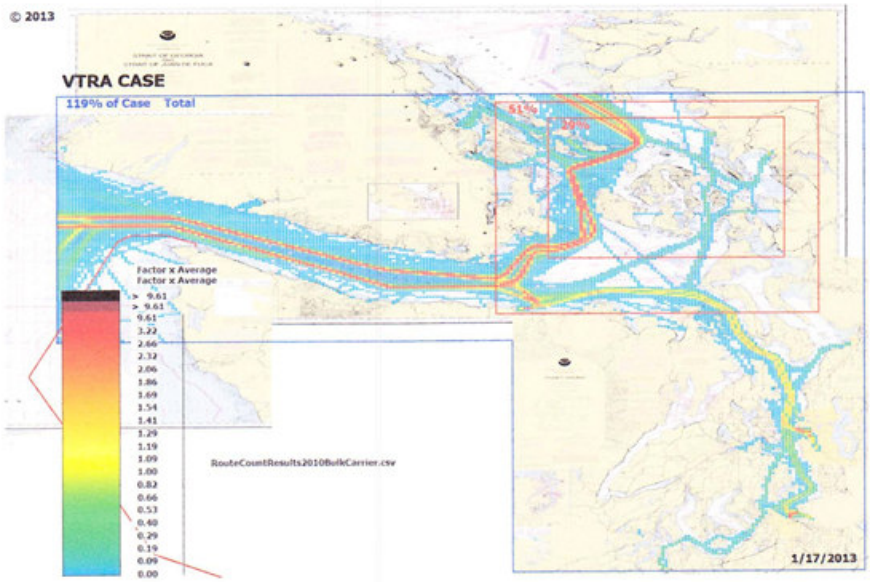
tanker, limited to 120,000 dwt due to depth restrictions, would carry about three times as much crude oil as was spilled by the Exxon Valdez.

- Enbridge Northern Gateway pipeline expansion would result in 220 oil tanker (minimum size 140,000 deadweight tons) loadings of crude oil (bitumen) annually at Kitimat, BC.

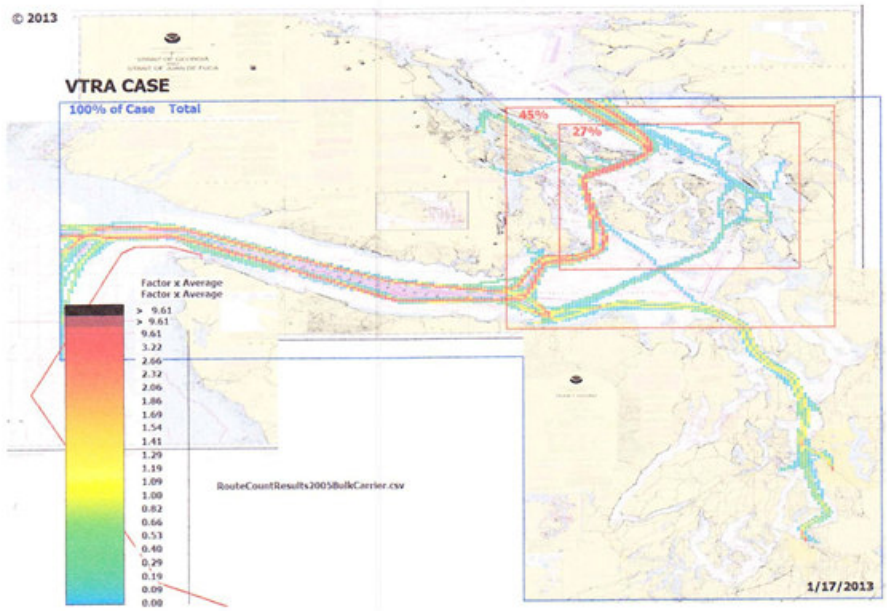
Appendix B: Vessel Traffic Risks[17]

In an effort to demonstrate the utility of the Vessel Traffic Risk Assessment (VTRA)[18] conducted by Rene Van Dorp at George Washington University we have summarized some of the preliminary findings from the analysis below.

2010 VTRA STUDY – DRAFT BULK CARRIER TRAFFIC DENSITY

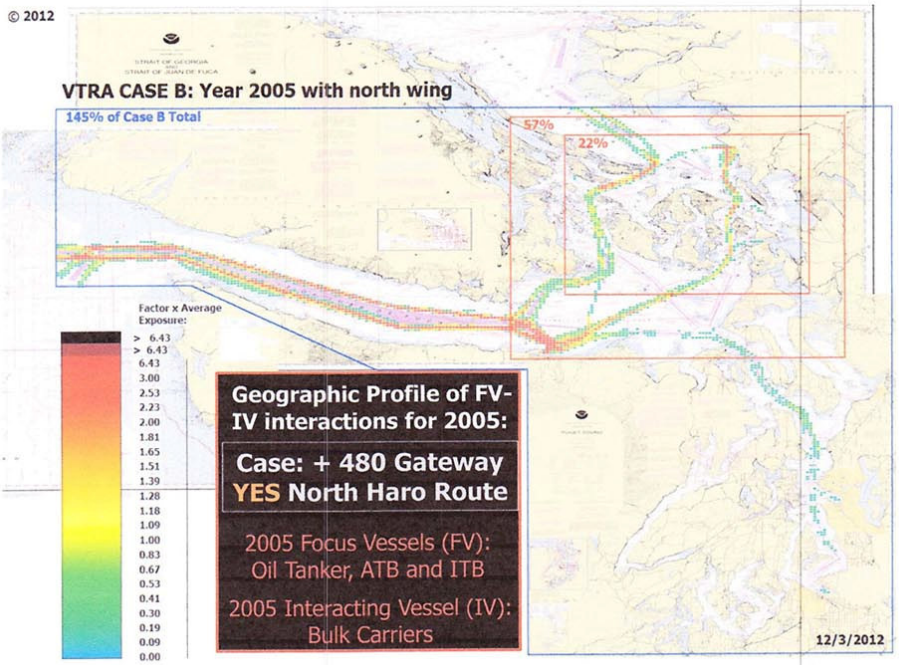


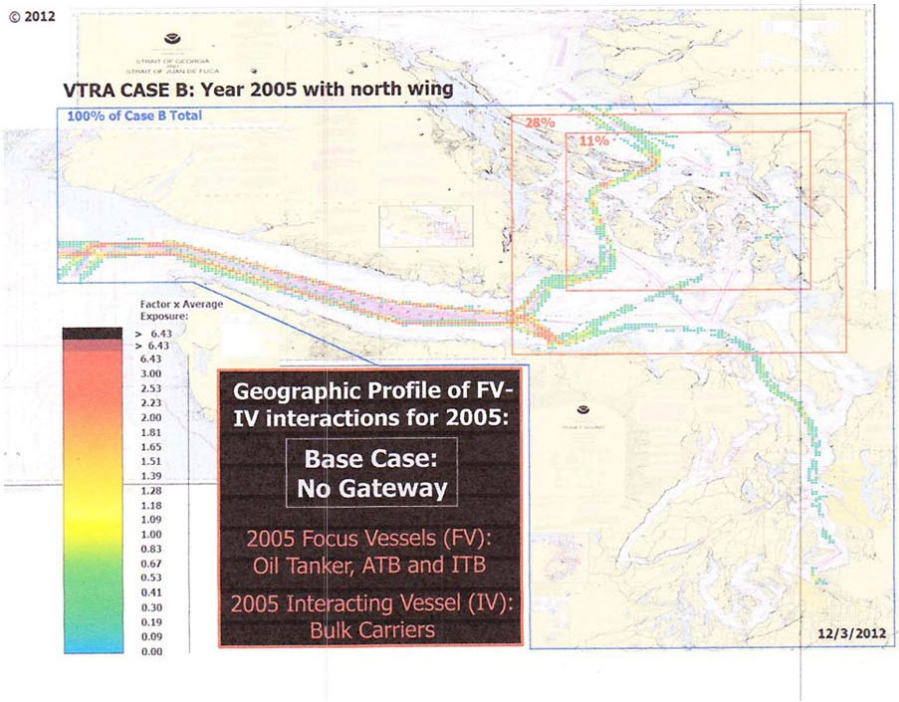
2005 VTRA STUDY – BULK CARRIER TRAFFIC DENSITY



[17] Data and analysis courtesy of the Makah Tribal Council.
[18] http://www.seas.gwu.edu/~dorpjr/tab4/publications_VTRA_Update.html.

1) The first two figures above show that between 2005 and 2010 the density of bulk vessel traffic through the entire study area has increase 19%. Density is a reflection of the amount of time a vessel type occurs in the waterway. This increase was distributed accordingly:
    - > 24% in western Juan de Fuca Strait.
    - > 13% in eastern Juan de Fuca Strait and all waterways north.
    - > 7% in the waterways just surrounding the San Juan Islands.





2) The next two figures above show how by adding 480 additional bulk carriers calling on the proposed Gateway Terminal at Cherry Point to the 2005 traffic levels the interactions between the focus vessels (tankers, Articulated Tug Barges (ATBs))the interacting vessels (bulk carriers) increases by 45%. These interactions are distributed accordingly:

- > 16% in western Juan de Fuca Strait.
- > 29% in eastern Juan de Fuca Strait and all waterways north.
- > 11% in the waterways just surrounding the San Juan Islands.

These results indicate that the addition of the 480 vessels calling on the proposed Gateway Terminal doubles the amount of vessel interactions in the San Juan Islands and eastern Juan de Fuca region and increases the number of interaction by a quarter in western Juan de Fuca. While not every interaction (the likelihood of two vessels colliding within 5 minutes) will result in an accident, the significant increase of that potential needs to be fully considered and adequately mitigated in the EIS.

We also recommend the study not only address the additional number of vessels being drawn to the region for this trade but the accident profile of these uniquely high risk vessels (see IMO report below). The bulk carriers capable of calling on the proposed Gateway Terminal are twice the size of tankers allowed to call on these waters by federal law, can carry up to 2 million gallons of bunker fuel and have the most worrisome safety record of all commercial cargo vessels.[19] In addition, these vessels are not required to have double hulls or tug escorts as do tankers.

These ships in international trade with China are not required to have English-speaking pilots until they travel 70 miles into Juan de Fuca Strait. As a result the risk of a vessel collision increases even further due to the inability to communicate with the ship captains to make passing arrangements. Furthermore, these vessels will be using anchorages shared by oil tankers in the region adding to the risk of collisions and disturbance of important crab habitat.

We are aware of two incidents involving coal carriers in Northwest waters that need to be incorporated into any analysis of the risk posed by the vessels. In July 19, 1997, the 736-foot coal carrier, *Continental Spirit*, lost power with 680 tons of fuel on board and drifted for an hour before dropping anchor within 500 yards of a reef off Patos Island.[20] On December 7, 2012, the 900 foot, Panama-registered coal carrier, *Cape Apricot,* crashed into a causeway at the Westshore coal terminal at Delta Port in British Columbia destroying about 100 meters of the structure, including a coal conveyer system.[21]

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[19] S*ee* U.S. Coast Guard Port State Control annual reports at https://homeport.uscg.mil/mycg/portal/ep/browse.do?channelId=-18371.

[20] *See Journal of the San Juan Islands*, "Cargo ship goes adrift near Patos Island," July 30, 1997 (on file with the author).

[21] *See Vancouver Sun*, "Ship crashes into dock at Westshore Terminals, spilling coal into water," Dec. 9, 2012; http://www.vancouversun.com/news/Ship+crashes+into+dock+Westshore+Terminals+spilling+coal+into+water+with+video/7667184/story.html.

International Maritime Organization (IMO) 2008. Bulk Carrier Casualty Report International Association of Dry Cargo Shipowners (INTERCARGO). Maritime Safety Committee 84th session Agenda item 23, MSC 84/INF.12, 6 March 2008.

ANALYSIS OF TOTAL LOSSES

	In 2007	In 10-year period 1998-2007
Lives	39	318
Ship losses	8	86

Trends
(Figures are rounded)

	Lives Lost	Ships Lost
1990 – 1999	78	14.5
1991 – 2000	74	13.5
1992 – 2001	62	11.6
1993 – 2002	60	10.9
1994 – 2003	52	10.5
1995 – 2004	42	9.6
1996 – 2005	38	9.7
1997 – 2006	37	8.9
1998 – 2007	32	8.6

Size of vessels lost

	In 2007	In 10-year period 1998-2007
Handysize	5	52
Handymax	2	13
Panamax	0	12
Capesize	0	9

Age of casualty

	In 2007	In 10-year period 1998-2007
0 – 4 years	0	3
5 – 9 years	0	6
10 – 14 years	1	4
15 – 19 years	0	14
20 – 24 years	3	29
25 + years	4	30

Cause of incident

	In 2007	In 10-year period 1998-2007
Structural	0	12
Fire and Explosion	0	10
Machinery Failure	1	6
Flooding	4	13
Collision	1	15
Grounding	1	21
Contact object	0	1
Cargo loading/cargo shift	0	5
Other/Unknown	1	3